WHAT IS CLAIMED IS:

1. A kit comprising:

(a) a standard diluent comprising a biological fluid normally including two or more different target analytes but substantially free of the two or more different target analytes; and

(b) a predetermined amount of one or more concentrated materials that collectively or separately contain the two or more different target analytes.

2. The kit in accordance with claim 1 in which the standard diluent is produced by removing the two or more different target analytes from the biological fluid by affinity chromatography.

3. The kit in accordance with claim 1 in which the standard diluent is obtained from a biological fluid of a host having the biological fluid substantially free of the two or more different target analytes.

4. The kit in accordance with claim 2 in which the affinity chromatography comprises removing the two or more different target analytes using antibodies that bind to the target analytes.

5. The kit in accordance with claim 1 in which the biological fluid is selected from the group consisting of serum, plasma, urine, cerebrospinal fluid, cell extracts, amniotic fluid, sweat, tear, saliva or nasal secretions.

6. The kit in accordance with claim 5 in which the biological fluid is obtained from human or mouse.

7. The kit in accordance with claim 1 in which the two or more different target analytes are cytokines.

8. The kit in accordance with claim 7 in which the cytokines are selected from interleukins, lymphokines, interferons, colony stimulator factors, platelet-activating factors, and/or tumor necrosis factors.

9. The kit in accordance with claim 1 in which the target analytes are two or more of IL-2, IL-4, IL-6, IL-8, IL-10, GM-CSF, TNF-α and IFN-γ.l

10. The kit in accordance with claim 1 in which the two or more different target analytes are mixed together to form a single concentrated material in part (b).

11. The kit in accordance with claim 1, the kit further comprising instruction materials for using the standard diluent to produce a series of control materials comprising different concentrations of the target analytes.

12. The kit in accordance with claim 1, the kit further comprising solid supports having immobilized thereon capture reagents that bind to the target analytes.

13. The kit in accordance with claim 12 in which the solid supports are classifiable into subgroups, each subgroup differentiable from others by a differentiation parameter and each subgroup having immobilized thereon a capture reagent capable of binding to a different target analyte.

14. The kit in accordance with claim 13 in which the differentiation parameter is color or fluorescence of the solid supports.

15. The kit in accordance with claim 12 in which the solid supports are microparticles.

16. The kit in accordance with claim 12 in which the capture reagents are antibodies that bind to the target analytes.

17. The kit in accordance with claim 16, the kit further comprising detection reagents that bind to the target analytes.

18. A control material for calibrating the amount of two or more different target analytes in a test sample in an immunoassay, the control material comprising:

(a) a predetermined amount of a concentrated material comprising the two or more different target analytes mixed with (b) a standard diluent comprising a biological fluid normally including the two or more different analytes but substantially free of the two or more different target analytes.

19. The control material in accordance with claim 18 in which the target analytes are cytokines.

20. A kit for detecting two or more different target analytes in a serum or plasma sample, the kit comprising:

(a) solid supports that are classifiable into subgroups, each subgroup differentiable from others by a differentiation parameter and each subgroup capable of having immobilized thereon a capture reagent that binds to a different target analyte; and

(b) a standard diluent comprising serum or plasma that is substantially free of the two or more different target analytes.

21. The kit in accordance with claim 20, wherein the differentiation parameter is color or fluorescence of the solid supports.

22. The kit in accordance with claim 20 in which the solid supports are microparticles.

23. The kit in accordance with claim 20 in which the capture reagent for each target analyte is immobilized on each subgroup of the solid supports.

24. The kit in accordance with claim 20 in which the standard diluent is produced by removing the two or more different target analytes from the serum or plasma by affinity chromatography.

25. The kit in accordance with claim 20 in which the standard diluent is obtained from a host's serum or plasma which has an undetectable endogenous level of the two or more different target analytes.

26. The kit in accordance with claim 20 in which the serum or plasma for the standard diluent is obtained from human or mouse.

27. The kit in accordance with claim 20 in which the two or more different target analytes are cytokines.

28. The kit in accordance with claim 27 in which the cytokines are selected from interleukins, lymphokines, interferons, colony stimulator factors, platelet-activating factors, and/or tumor necrosis factors.

29. The kit in accordance with claim 27 in which the target analytes are two or more of IL-2, IL-4, IL-6, IL-8, IL-10, GM-CSF, TNF-α, and INF-γ.

30. The kit in accordance with claim 20, the kit further comprising a predetermined amount of one or more concentrated materials that collectively or separately contain the two or more different target analytes.

31. The kit in accordance with claim 20, the kit further comprising detection reagents that bind to the target analytes.

32. A method of conducting a simultaneous assay for two or more target analytes in which a standard diluent is used to dilute one or more reference standards, the method comprising using as the standard diluent a biological fluid substantially free of the two or more target analytes.

33. The method in accordance with claim 32 in which the assay is conducted for the target analytes in a first biological fluid, and the diluent comprises a second biological fluid comprising essentially the same matrix components as the first biological fluid, the second biological fluid being substantially free of the two or more target analytes.

34. The method in accordance with claim 33 in which the second biological fluid is obtained by screening a series of biological fluids and identifying one or more biological fluids containing the two or more target analytes at a concentration below a predetermined threshold.

35. The method in accordance with claim 33 in which the second biological fluid is obtained by treating a biological fluid to remove the target analytes so as to decrease the concentrations thereof to concentrations below predetermined thresholds.

36. The method in accordance with claim 35 in which the target analytes are removed by affinity chromatography.

37. The method in accordance with claim 36 in which the target analytes are removed by contacting the biological fluid with antibodies that bind to the target analytes.

38. The method in accordance with claim 33 in which the biological fluid is selected from interleukins, lymphokines, interferons, colony stimulator factors, platelet-activating factors, and/or tumor necrosis factors.

39. The method in accordance with claim 33 in which the two or more different target analytes are cytokines.

40. The method in accordance with claim 33 in which the cytokines are selected from interleukins, lymphokines, interferons, colony stimulator factors, platelet-activating factors, and/or tumor necrosis factors.

41. The method in accordance with claim 40 in which the target analytes are two or more of IL-2, IL-4, IL-6, IL-8, IL-10, GM-CSF, TNF-$\alpha$ and/or INF-$\gamma$.

42. A method of preparing a standard diluent for use in a simultaneous assay for two or more target analytes, comprising treating a biological fluid containing the target analytes to remove the target analytes so as to decrease the concentrations thereof to concentrations below predetermined thresholds.

43. The method in accordance with claim 42 in which the target analytes are removed by affinity chromatography.

44. The method in accordance with claim 43 in which the target analytes are removed by contacting the biological fluid with antibodies that bind to the target analytes.

45. The method in accordance with claim 42 in which the biological fluid is selected from interleukins, lymphokines, interferons, colony stimulator factors, platelet-activating factors, and/or tumor necrosis factors.

46. The method in accordance with claim 42 in which the two or more different target analytes are cytokines.

47. The method in accordance with claim 46 in which the cytokines are selected from interleukins, lymphokines, interferons, colony stimulator factors, platelet-activating factors, and/or tumor necrosis factors.

48. The method in accordance with claim 47 in which the target analytes are two or more of IL-2, IL-4, IL-6, IL-8, IL-10, GM-CSF, TNF-$\alpha$ and/or INF-$\gamma$.